

RNAV Study Update

For Belmont Select Board

Myron Kassaraba, MCAC Representative

July 8, 2019

Timeline

- June 2013 - 33L RNAV SID procedure implemented
- Sept. 2013 – Belmont and Watertown join the Logan CAC
- 2014 – Coalition between CAC Reps from Arlington, Belmont, Cambridge & Watertown. Joint letters and request for relief from FAA and Massport.
- Jan. 2015 – Motion by Logan CAC to request re-evaluation of 33L RNAV SID
- October 2015 – First meeting of 33L Municipal Working Group in Belmont
- July 2016 – Second meeting of 33L Municipal Working Group at Statehouse
- **October 2016 – Massport/FAA/MIT announce RNAV Study**
- November 2016 – 33L Municipal Working Group meeting with FAA Deputy Administrator in Burlington
- Feb & November 2017 – Massport RNAV Study Public Meetings (Boston, Mass DOT Transportation Building)
- April 2018 – MCAC Aviation Subcommittee meeting on initial Block 2 analysis.
- October 2018 – Block 2 update and presentation of Dispersion Concepts
- April 2019 – Last update on Block 2
- **June 2019 – MIT John Hansman Briefing to 33L Municipal Working Group**

33L Municipal Working Group

- Initiated by Arlington, Belmont, Cambridge and Watertown Logan CAC Reps, Officials and Legislators. Medford and Somerville are now participating.
- Objective: to communicate to our Congressional Delegation and Legislators as communities negatively impacted by the 2013 33L RNAV SID procedure and to ask for help in getting a re-examination of the procedure to reduce the effects of RNAV concentration.
- What we asked for:
 - Decrease in the concentrated noise burden on specific neighborhoods under the 33L flight paths though dispersion akin to that of the pre-RNAV Logan Six procedure.
 - Planes cleared to higher altitudes faster.

June 24th Meeting

- Briefing by Dr. John Hansman on the Block 2 dispersion options being developed for consideration by the MIT RNAV Study Team.
- Reps and Municipal Officials from Arlington, Belmont, Cambridge, Medford, Somerville, Watertown.
- Multiple Legislators and Legislative staff
- Massport Aviation & Noise Abatement staff and consultants (HMMH)
- Massport CAC Executive Director

Summary of Concepts

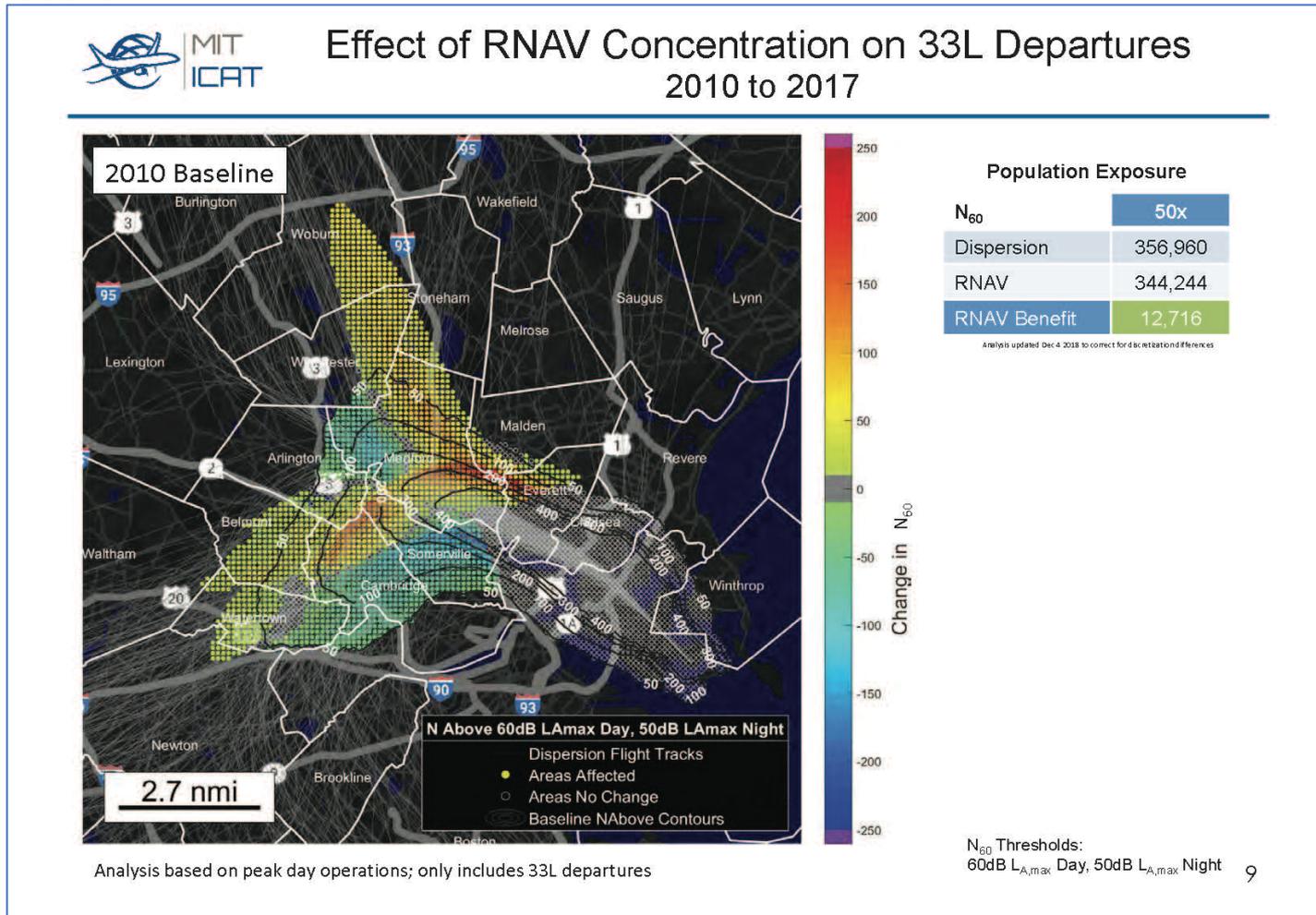
- REVERT TO LOGAN 6 (FAA not going back to radar nav)

Summary of Concepts

- ~~REVERT TO LOGAN 6~~
- INTRODUCE VARIABILITY (DISPERSION)
 1. Altitude-based: Flights are free to vector to next waypoint @ 3k or 4k ft. Different planes reach 3k or 4k ft. at different times (aircraft type, weight, weather)
 2. Controller-based (ATC vectoring)
 3. Divergent-headings (create a new fork in trunk)
 4. Waypoint relocation (4 variants, -.5, -1, +.5, +1nm)
 5. Variable Rotation Departures (6 variants) - hybrid of #3 & #4

Analysis Methodology

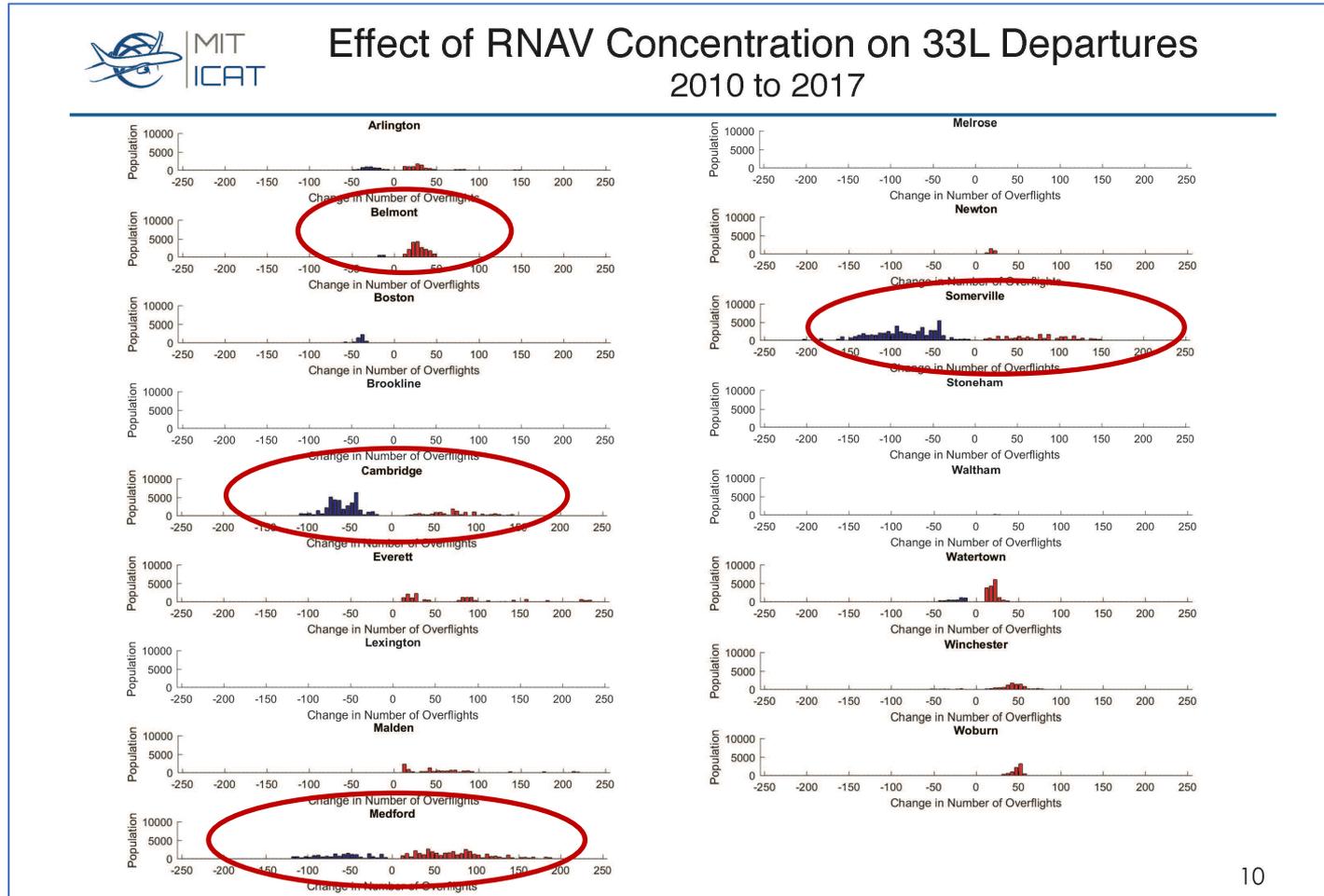
- N_{above} on peak day



Source: Runway 33L Impacted Communities Focus Briefing 6.24.19, Dr. J. Hansman

Shift in burden by community

- Change from 2010 (pre-RNAV) to 2017

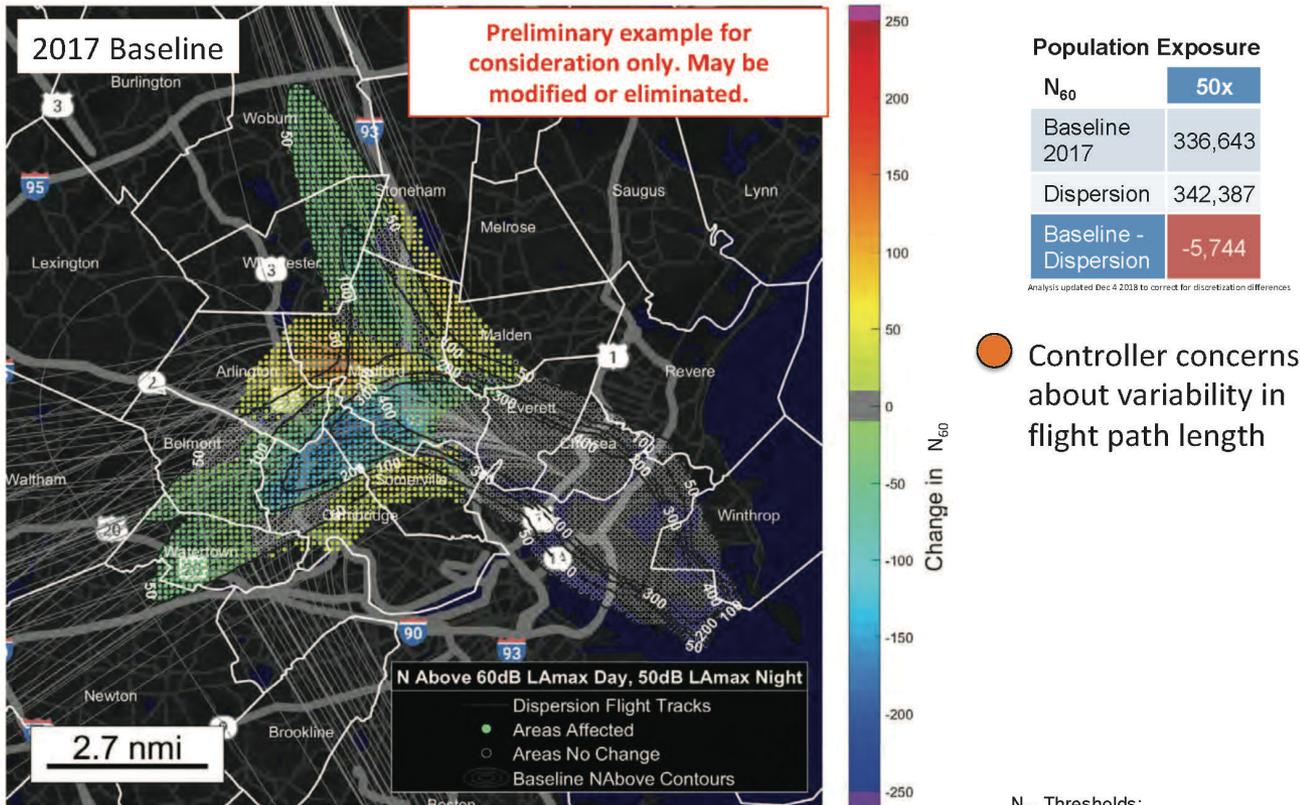


Source: Runway 33L Impacted Communities Focus Briefing 6.24.19, Dr. J. Hansman

Each Concept is Modeled



33L Departures Altitude-Based Dispersion at 3000ft Change in N_{60} Compared to 2017



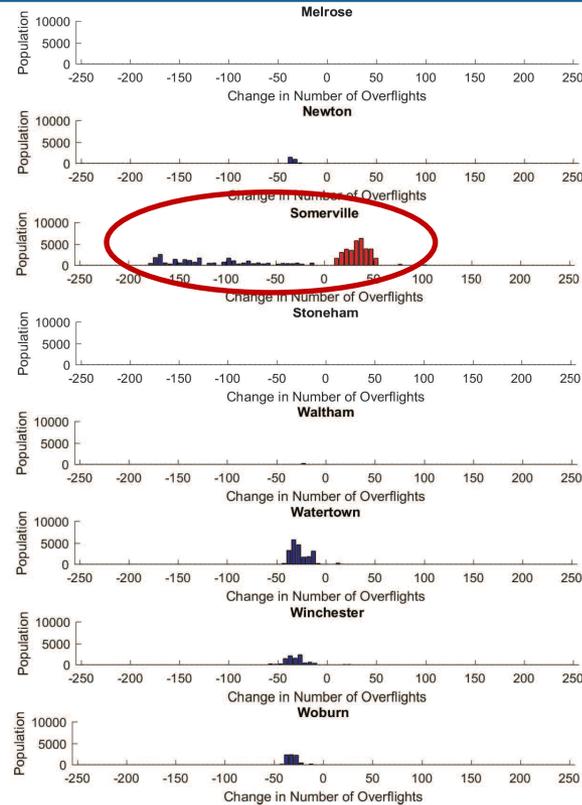
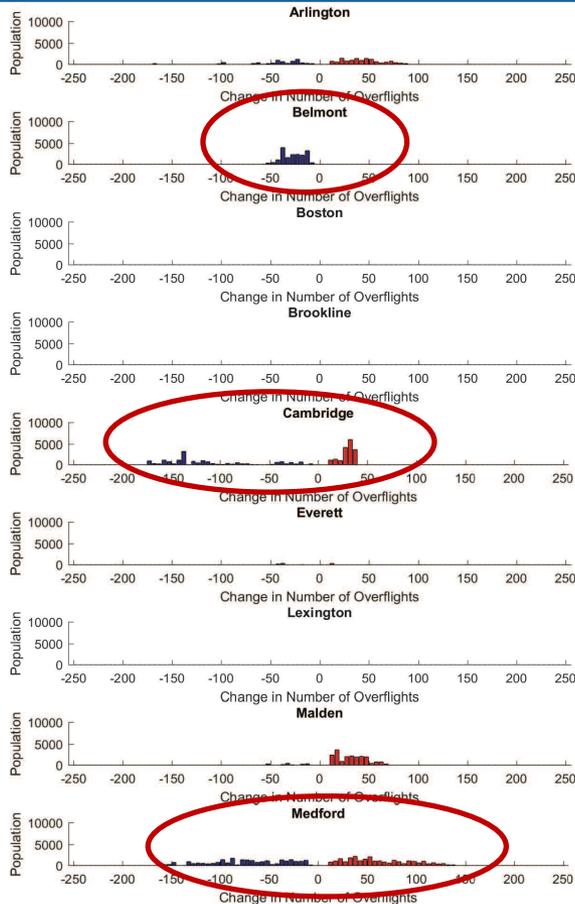
Analysis based on peak day operations; only includes 33L departures

Source: Runway 33L Impacted Communities Focus Briefing 6.24.19, Dr. J. Hansman

Community burden analysis



33L Departures Altitude-Based Dispersion at 3000ft Change in N_{60} Compared to 2017



Source: Runway 33L Impacted Communities Focus Briefing 6.24.19, Dr. J. Hansman

Challenges

- What is today – is not what was before RNAV
 - Over 25% increase in volume of Ops at BOS since 2010
 - Huge increases in late night and early morning Ops (11-1am, 5-7am)
- Any one of the "concepts" will move some flights over people & neighborhoods that have not had many or any flights since 2013.
- Some of those neighborhoods have higher population density
- Some of those people moved into those neighborhoods after 2013

Process from here

- Additional information and analysis requested from RNAV Study Team including comparison of concepts to pre-RNAV (see letter from Rep. Hecht).
- Each City or Town to decide if they want to hold local meetings in their community.
- Reconvene 33L Municipal Working Group to discuss taking a position on recommendations for dispersion alternative(s).
- Move towards a vote of the Massport CAC for submission of a formal request to the FAA (Next General MCAC Meeting in October).